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Report No.:

KES-E1-16T0653-R1

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EMC TEST REPORT For FCC

Test Report No. : KES-E1-16T0653-R1

Date of Issue : Feb. 24, 2023

Product name : NETWORK CAMERA

Model/Type No. : XND-8080R

Variant Model : -

Applicant : Hanwha Vision Co., Ltd

Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea

Manufacturer : 1. HANWHA VISION VIETNAM COMPANY LIMITED
2. D-TECH CO.,LTD.

Manufacturer Address : 1. Lot O-2, Que Vo Industrial Zone extended area,
Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do,
Korea (Suwon Industrial Complex)

Equipment authorization : ☐ Declaration of Conformity
☒ Verification
☐ Certification

Date of Receipt : Nov, 23, 2016

Test date : Dec. 12, 2016

Test Results : ☒ In Compliance ☐ Not in Compliance

Tested by

Jin Bae, Lee
EMC Test Engineer
Tested by Jin Bae, Lee
(Retired person)

Proxy signature : Eun Gu, Jeon

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

This test report is not related to KS Q ISO/IEC 17025 and KOLAS.

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Dec. 19, 2016	KES-E1-16T0653	Issued
Feb. 24, 2023	KES-E1-16T0653-R1	Change the Applicant, Applicant addresss and manufacturer, manufacturer address at the request of the customer

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1.0 General Product Description

Main Specifications of EUT are:

Video	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3096(H) x 2094(V)
Effective Pixels	2616(H) x 1976(V)
Scanning System	Progressive Scan
Min. Illumination	Color : 0.1 lux(F1.3, 1/30sec) B/W : 0 Lux (F1.3, IR LED On)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P), for installation USB : Micro USB type B, 1920 x 1080, for installation
Lens	
Focal Length (Zoom Ratio)	3.9~9.4mm(2.4x) motorized varifocal
Max. Aperture Ratio	F1.3
Angular Field of View	TBD
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus(Motorized V/F) / Manual, Remote control via network(Manual, Simple focus)
Lens Type	DC Auto Iris, P-iris
Mount Type	Board-in type
Pan / Tilt / Rotate	
Pan / Tilt / Rotate range	0° ~ 354° / 0° ~ 85°(TBD) / 0° ~ 355°
Operational	
IR-LED	TBD
Viewable Length	(TBD)50m(164.04ft)
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English/Numeric/Special Characters - China : English/Numeric/Special/Chinese Characters - Common : Multi-line (Max 5), Color (Grey/Green/Red/Blue/Black/White), Transparency, Auto Scale by Resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC(Masking/Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNR5 (2D+3D Noise Filter) (Off / On)
Digital Image Stabilization	Off / On (Built-in Gyro sensor)
Defog	Auto(input from fog detection) / Manual / Off
Motion Detection	Off/ On(8ea, 8point Polygonal zones), Hand over
Privacy Masking	Off / On (32ea, polygonal zones) - Color : Grey/Green/Red/Blue/Black/White - Mosaic
Gain Control	Off / Low / Medle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor((included Mercury & Sodium)
Contrast	level adjustment
LDC	On/Off (5 levels with Min/Max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24X, 'Digital PTZ(Preset, Group)
Flip / Mirror	Flip : On/Off Mirror : On/Off Hallway view : 90°/270°
Intelligent Video & Audio A	Tampering, Loitering, Directional Detection, Defocus Detection, Fog Detection, Virtual Line, Enter/Exit, Appear / Disappear, Audio Detection, Motion Detection, Digital Auto Tracking, Sound Classification
Alarm I/O	Input 1ea / Output 1ea

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Remote Control Interface	-
RS-485 Protocol	-
Alarm Triggers	Alarm Input, Motion Detection, Video & Audio Analytics, Network Disconnect
Alarm events	File upload via FTP, E-Mail Notification via E-Mail local storage(SD/SDHC/SDXC) or NAS recording at Event Triggers External output DPTZ preset
Audio In	Selectable (Mic IN/Line IN), Supply voltage: 2.5VDC(4mA), Input impedance: approx. 2K Ohm
Audio out	Line out, Max output level: 1 Vrms
Fan / Heater	TBD
Pixel Counter	Support
Network	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265/H.264 (MPEG-4 Part 10/AVC) : Main/Baseline/High , Motion JPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960 1280 x 720, 1024 x 768, 800 x 600, 720 x 576, 720 x 480, 640 x 480, 320 x 240
Max. Framerate	H.265/H.264 : Max. 30fps at all resolutions Motion JPEG : Max. 30fps
Smart Codec	Manual Mode (area-based : 5EA)
WiseStream	Support
Video Quality Adjustment	H.264/H.265 : Target Bitrate Level Control MJPEG : Target Bitrate Level Control
Bitrate Control Method	H.264/H.265 : CBR or VBR, with WiseStream MJPEG : VBR
Streaming Capability	Multiple Streaming (Up to 10 Profiles)
Audio Compression Format	G.711 u-law /G.726 Selectable G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-Way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1X Authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at Unicast Mode
Edge Storage	SD/SDHC/SDXC 2slot (up to 512 GB) - Continuous recording(1'st slot to 2'nd slot) - Motion Images recorded in the SD/SDHC/SDXC memory card can be downloaded. NAS(Network Attached Storage) Local PC for Instant Recording

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Application Programming	ONVIF Profile S/G SUNAPI(HTTP API) Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Danish, Portuguese, Czech, Polish, Turkish, Rumanian, Serbian, Dutch, Croatia, Hungary, Greek, Norsk, Finnish
Web Viewer	Supported OS: Windows 7, 8, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer Supported Browser: Google Chrome 54, MS Edge 38, Mozilla Firefox 49, Apple Safari 9 (Mac OS X only) Plug-in Webviewer Supported Browser : MS Explore 11, Apple Safari 9 (Mac OS X only)
Central Management Software	SmartViewer, SSM
Environmental	
Operating Temperature / Humidity	-10°C ~ +55°C (-14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH
Ingress Protection	IP67, IP66, NEMA 4X
Vandal Resistance	IK10
Electrical	
Input Voltage / Current	12VDC $\pm$ 10%, PoE(IEEE802.3af)
Power Consumption	TBD
Mechanical	
Color / Material	Ivory / Aluminum
Dimension (WxHxD)	TBD
Weight	TBD

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1.1 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

Voltage ☐ 100 Vac ☐ 120 Vac ☐ 24 Vac ☒ 12 Vdc ☒ PoE

Frequency ☐ 50 Hz ☐ 60 Hz ☐ Hz

1.2 Variant Model Differences

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	XND-8080R	-	HANWHA VISION VIETNAM COMPANY LIMITED	E.U.T

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
POE Adapter	PD-3001GC/AC	RD9356082016964200	Power Dsine	-
Notebook	X56K	HN11N5151FJ0045W	HANSUNG	-
Notebook Adapter	A12-120P1A	F180271552011758	CHICONY POWER TECHNOLOGY CO.,LTD.	-
Phone	A1530	-	APPLE	-
MIC	CMK-303	-	CAMAC	1.7 m
Speaker	BR10000A CUVE	-	BEIJING EDIFIER HI-TECH GROUP.	1.6 m
Alarm	-	-	-	-



1.6 External I/O Cabling

- DC 12 V Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (E.U.T)	RJ-45	Notebook	RJ-45	3.0	U
	3.5 mm	MIC	3.5 mm	1.7	U
	3.5 mm	Speaker	3.5 mm	1.6	U
	3 pin	Alarm	3 pin	3.0	U
Notebook	Audio in	Phone	Audio out	1.7	U

- PoE Mode

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (E.U.T)	RJ-45 (POE)	POE Adapter	RJ-45 (POE)	3.0	U
	3.5 mm	MIC	3.5 mm	1.7	U
	3.5 mm	Speaker	3.5 mm	1.6	U
	3 pin	Alarm	3 pin	3.0	U
Notebook	Audio in	Phone	Audio out	1.7	U
	RJ-45 (DATA)	POE Adapter	RJ-45 (DATA)	3.0	U

* Unshielded = U, Shielded = S

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1.7 EUT Operating Mode(s)

operating
E.U.T Monitoring , Ping test, 1 kHz

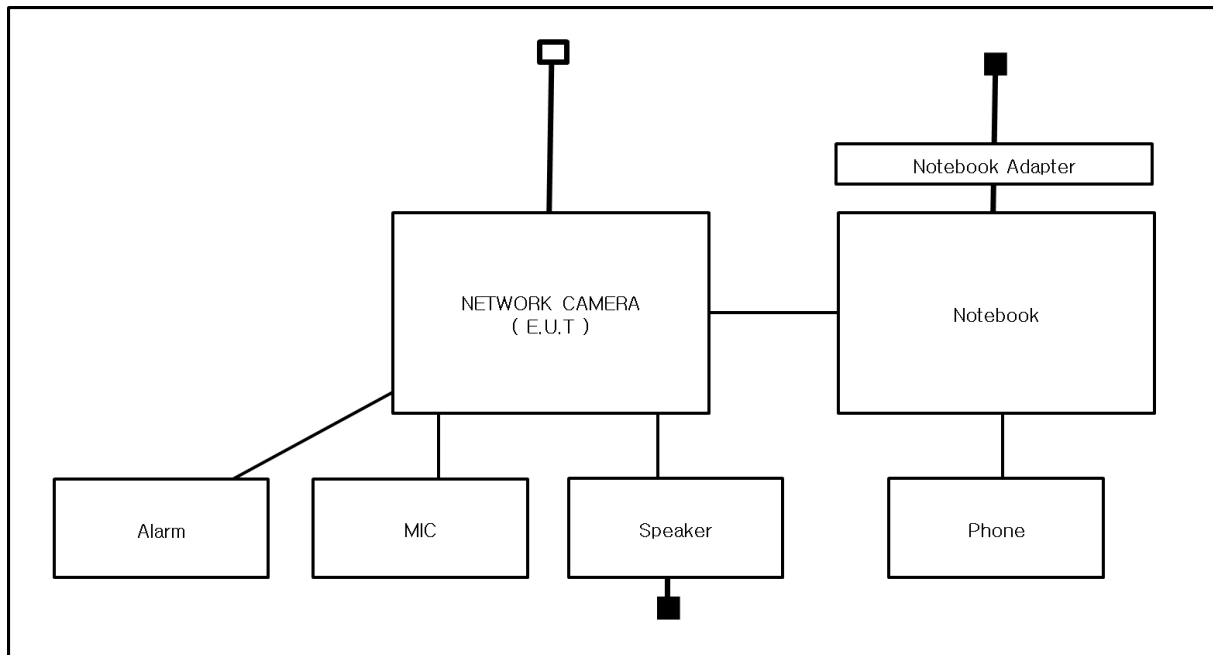
E.U.T Test operating S/W		
Name	Version	Manufacture Company
SmartViewer	-	Hanwha Vision Co., Ltd

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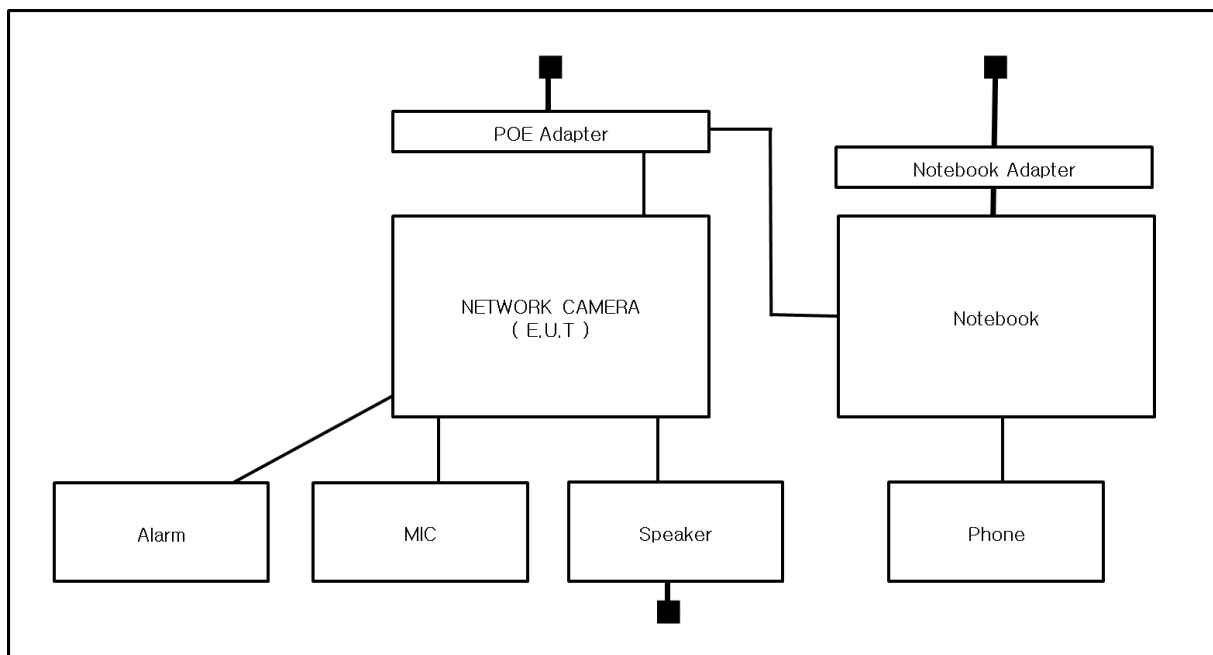
1.8 Configuration

■ AC Main
 □ DC Main

- DC 12 V Mode



- PoE Mode



1.9 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less.

1.10 Test Facility

The measurement facility is located at 473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, 12658, Korea, Republic of. The sites are constructed in conformance with the requirements of ANSI C63.4a-2017 and CISPR 16-1-4:2019

1.11 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
KOREA	RRA	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KR0100
International	KOLAS	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KT489
USA	FCC	3 m & 10 m Semi-Anechoic Chamber Conducted test site to perform FCC Part 15/18 measurements.	 KR0100
Canada	ISED	3 m & 10 m Semi-Anechoic Chamber and Conducted test site	 23298
JAPAN	VCCI	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site)	 C-20136, T-20137, R-20181, G-20176
Europe	TÜV SÜD	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 CARAT 001633 0004



2.0 Test Regulations

The emissions tests were performed according to following regulations:

- ☐ **EMC – Directive 2014/30/EU**
- ☐ EN 61000-6-3:2011
- ☐ EN 61000-6-1:2007
- ☐ EN 61000-6-4:2007 +A1:2011
- ☐ EN 61000-6-2:2005
- ☐ EN 55011:2007 +A1:2010 ☐ Group 1 ☐ Group 2
☐ Class A ☐ Class B
- ☐ EN 55014-1:2006 +A2:2011
- ☐ EN 55014-2:1997 +A2:2008
- ☐ EN 55015:2013
- ☐ EN 55022:2010 ☐ Class A ☐ Class B
- ☐ EN 55024:2010
- ☐ EN 50130-4:2011 +A1:2014
- ☐ EN 61000-3-2:2014
- ☐ EN 61000-3-3:2013
- ☐ EN 61326-1:2013



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- | | | |
|--|---|----------------------------------|
| ☐ VCCI V-3 / 2015.04 | ☐ Class A | ☐ Class B |
| ☐ AS/NZS CISPR22:2009 +A1:2010 | ☐ Class A | ☐ Class B |
| ☒ 47 CFR Part 15, Subpart B | | |
| ☐ CISPR 22:2009 +A1:2010 | ☐ Class A | ☐ Class B |
| ☒ ANSI C63.4-2014 | ☒ Class A | ☐ Class B |
| ☐ IC Regulation ICES-003 : 2016 | | |
| ☐ CAN/CSA CISPR 22-10 | ☐ Class A | ☐ Class B |
| ☐ ANSI C63.4-2014 | | |
| ☐ MEDICAL – Directive 93/42/EEC | | |
| ☐ EN 60601-1-2 :2007 | | |
| ☐ RE– Directive 2014/53/EU | | |
| ☐ EN 301 489-1 V1.9.2 | | |
| ☐ Equipment for fixed use | | |
| ☐ Equipment for vehicular use | | |
| ☐ Equipment for portable use | | |
| ☐ EN 301 489-3 V1.6.1 | | |
| ☐ EN 301 489-17 V2.2.1 | | |
| ☐ EN 60945:2002 | | |

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2.1 Conducted Emissions at Mains Power Ports

Test Date

N/A

Test Location

Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	EMI Test Receiver	ESR3	R & S	101783	05, 03, 2017
☐	LISN	ENV216	R & S	101137	02, 04, 2017
☐	LISN	ENV216	R & S	101786	05, 02, 2017
☐	Electro wave Shieldroom	-	SEMITEC	-	-
☐	EMI Test S/W	EMC32	R & S	9.12.00	-

Test Conditions

Temperature: °C
Relative Humidity: %

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Results

The requirements are:

- ☐ PASS
☐ NOT PASS
☒ NOT APPLICABLE

Remarks

N/A Because the E.U.T power is 12 v (dc) power and PoE, limits are not specified.



2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Dec, 12, 2016

Test Location

☐ Open Area Test Site #1 ☒ Open Area Test Site #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI TEST Receiver	ESR3	R&S	101781	05, 03, 2017
☒	Trilog-Broadband ANT	VULB 9163	Schwarzbeck	9163-713	05, 15, 2017
☒	OATS	-	KES	-	-
☒	Antenna Mast	-	DAEIL EMC	-	-
☒	Turn Table	-	DAEIL EMC	-	-
☒	EMI Test S/W	-	-	-	-

Test Conditions

Temperature: 2,8 °C
Relative Humidity: 63,0 %

Frequency Range of Measurement

30 MHz to 1 GHz

Instrument Settings

IF Band Width: 120 kHz

Test Results

The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.



2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Dec, 12, 2016

Test Location

Semi Anechoic Chamber #1

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	Log-Periodic Antenna	STLP 9149	SCHWARZBECK	9149-255	05, 17, 2018
☒	EMI TEST Receiver	ESU26	R&S	100551	04, 18, 2017
☒	Preamplifier	EMI TEST Receiver	R&S	102232	06, 29, 2017
☒	Semi Anechoic Chamber #1	-	KES	-	-
☒	Tilt Antenna Mast	TAM 4.0-E	mature	18100116	-
☒	Turn Table	DT 2000-1,5T	INN-CO	-	-
☒	EMI Test S/W	-	-	-	-

Test Conditions

Temperature: 19,3 °C

Relative Humidity: 46,6 %

Frequency Range of Measurement

1 GHz to 6 GHz

Instrument Settings

IF Band Width: 1 MHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.



APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

[HOT]

N/A

◆ Calculation

QuasiPeak[dBuV] / CAverage [dBuV] = Reading Value[dBuV] + Corr. [dB]

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

Corr. : Correction values (LISN FACTOR+ Cable Loss)



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[NEUTRAL]

N/A

◆ Calculation

QuasiPeak[dBuV] / CAverage [dBuV] = Reading Value[dBuV] + Corr. [dB]

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

Corr. : Correction values (LISN FACTOR+ Cable Loss)

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Radiated Electric Field Emissions(Below 1 GHz)

- DC 12 V Mode

Frequency	Amplitude	ANT	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[MHz]	[dB μ V]	Polar. (H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dB μ V/m]	[dB μ V/m]	[dB]
140.52	9.72	H	3.70	7.86	3.45	21.03	43.50	22.47
225.79	10.52	V	1.00	11.87	4.43	26.82	46.40	19.58
351.20	11.82	H	3.58	14.57	5.65	32.04	46.40	14.36
375.38	7.81	V	1.14	15.13	5.91	28.85	46.40	17.55
600.34	7.43	V	1.28	19.30	7.83	34.56	46.40	11.84
702.46	8.67	H	4.00	19.73	8.55	36.95	46.40	9.45

* H : Horizontal, V : Vertical

◆ Calculation

Corrected Amplitude [dB μ V] = Amplitude[dBuV] + Correction Factor [dB]

Corrected Amplitude : The Final Value, Amplitude : Reading Value,

Correction Factor : ANT FACTOR + Cable loss

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- PoE Mode

Frequency	Amplitude	ANT	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[MHz]	[dBμV]	Polar. (H/V)	[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	[dB]
65.80	8.75	H	3.82	10.94	2.33	22.02	39.00	16.98
148.39	9.50	V	1.26	8.14	3.55	21.19	43.50	22.31
243.46	7.51	H	3.74	12.26	4.64	24.41	46.40	21.99
374.81	10.16	H	4.00	15.12	5.90	31.18	46.40	15.22
602.16	7.39	V	1.21	19.31	7.84	34.54	46.40	11.86
642.01	8.13	V	1.00	19.47	8.10	35.70	46.40	10.70

* H : Horizontal, V : Vertical

◆ Calculation

Corrected Amplitude [dBμV] = Amplitude[dBuV] + Correction Factor [dB]

Corrected Amplitude : The Final Value, Amplitude : Reading Value,

Correction Factor : ANT FACTOR + Cable loss

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Radiated Electric Field Emissions(Above 1 GHz)

- DC 12 V Mode

- PK

Frequency [MHz]	Amplitude [dB μ V]	ANT Polar. (H/V)	ANT. Height [m]	Correction Factor			Corrected Amplitude [dB μ V/m]	Applicable Limit [dB μ V/m]	Margin [dB]
				ANT. [dB /m]	Cable [dB]	AMP [dB]			
1 000.000	61.970	H	1.000	20.490	3.110	43.640	41.930	76.000	34.070
1 000.000	62.610	V	1.000	20.490	3.110	43.640	42.570	76.000	33.430
1 600.000	56.500	V	1.000	23.560	3.860	43.660	40.260	76.000	35.740
1 625.000	57.940	H	1.000	23.680	3.920	43.670	41.870	76.000	34.130
2 001.000	64.510	V	1.000	25.600	4.400	43.780	50.730	76.000	25.270
2 049.000	61.510	V	1.000	25.810	4.500	43.800	48.020	76.000	27.980
2 057.000	67.830	H	1.000	25.840	4.510	43.810	54.370	76.000	21.630
2 802.000	61.380	H	1.000	28.960	5.270	44.120	51.490	76.000	24.510
2 802.000	58.000	V	1.000	28.960	5.270	44.120	48.110	76.000	27.890
3 203.000	57.930	H	1.000	30.110	5.680	44.220	49.500	80.000	30.500
3 203.000	56.250	V	1.000	30.110	5.680	44.220	47.820	80.000	32.180
4 004.000	54.890	H	1.000	31.400	6.620	44.210	48.700	80.000	31.300

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- AV

Frequency [MHz]	Amplitude [dBμV]	ANT Polar. (H/V)	ANT. Height [m]	Correction Factor			Corrected Amplitude [dBμV/m]	Applicable Limit [dBμV/m]	Margin [dB]
				ANT. [dB /m]	Cable [dB]	AMP [dB]			
1 000.000	46.720	H	1.000	20.490	3.110	43.640	26.680	56.000	29.320
1 000.000	48.390	V	1.000	20.490	3.110	43.640	28.350	56.000	27.650
1 600.000	42.600	V	1.000	23.560	3.860	43.660	26.360	56.000	29.640
1 945.000	54.350	H	1.000	25.320	4.370	43.760	40.280	56.000	15.720
2 049.000	56.510	H	1.000	25.810	4.500	43.800	43.020	56.000	12.980
2 057.000	51.530	V	1.000	25.840	4.510	43.810	38.070	56.000	17.930
2 746.000	46.230	V	1.000	28.730	5.250	44.100	36.110	56.000	19.890
2 802.000	47.970	H	1.000	28.960	5.270	44.120	38.080	56.000	17.920
3 203.000	49.050	H	1.000	30.110	5.680	44.220	40.620	60.000	19.380
3 203.000	46.540	V	1.000	30.110	5.680	44.220	38.110	60.000	21.890

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor
[dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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- PoE Mode

- PK

Frequency [MHz]	Amplitude [dBμV]	ANT Polar. (H/V)	ANT. Height [m]	Correction Factor			Corrected Amplitude [dBμV/m]	Applicable Limit [dBμV/m]	Margin [dB]
				ANT. [dB /m]	Cable [dB]	AMP [dB]			
1 000.000	62.310	V	1.000	20.490	3.110	43.640	42.270	76.000	33.730
1 600.000	56.020	V	1.000	23.560	3.860	43.660	39.780	76.000	36.220
1 609.000	58.030	H	1.000	23.600	3.880	43.660	41.850	76.000	34.150
2 001.000	67.620	H	1.000	25.600	4.400	43.780	53.840	76.000	22.160
2 001.000	65.880	V	1.000	25.600	4.400	43.780	52.100	76.000	23.900
2 049.000	63.930	V	1.000	25.810	4.500	43.800	50.440	76.000	25.560
2 282.000	62.720	H	1.000	26.780	4.840	43.910	50.430	76.000	25.570
2 282.000	57.770	V	1.000	26.780	4.840	43.910	45.480	76.000	30.520
2 802.000	57.420	H	1.000	28.960	5.270	44.120	47.530	76.000	28.470
3 195.000	54.670	V	1.000	30.100	5.670	44.220	46.220	80.000	33.780
3 203.000	57.680	H	1.000	30.110	5.680	44.220	49.250	80.000	30.750
3 996.000	53.890	H	1.000	31.380	6.610	44.210	47.670	80.000	32.330

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- AV

Frequency [MHz]	Amplitude [dBμV]	ANT Polar. (H/V)	ANT. Height [m]	Correction Factor			Corrected Amplitude [dBμV/m]	Applicable Limit [dBμV/m]	Margin [dB]
				ANT. [dB /m]	Cable [dB]	AMP [dB]			
1 000.000	49.010	H	1.000	20.490	3.110	43.640	28.970	56.000	27.030
1 000.000	49.180	V	1.000	20.490	3.110	43.640	29.140	56.000	26.860
1 993.000	40.650	V	1.000	25.560	4.400	43.780	26.830	56.000	29.170
2 001.000	53.350	H	1.000	25.600	4.400	43.780	39.570	56.000	16.430
2 049.000	55.750	H	1.000	25.810	4.500	43.800	42.260	56.000	13.740
2 049.000	50.820	V	1.000	25.810	4.500	43.800	37.330	56.000	18.670
2 282.000	49.030	H	1.000	26.780	4.840	43.910	36.740	56.000	19.260
2 290.000	46.920	V	1.000	26.820	4.840	43.910	34.670	56.000	21.330
2 891.000	44.810	H	1.000	29.330	5.310	44.160	35.290	56.000	20.710
3 203.000	47.800	H	1.000	30.110	5.680	44.220	39.370	60.000	20.630
3 203.000	44.160	V	1.000	30.110	5.680	44.220	35.730	60.000	24.270

◆ Calculation

Over Limit [dB] = (Read Level[dBuV] + Ant Factor[dB/m] + Cable Loss [dB] - Preamp Factor
[dB]) - Limit Line[dBuV]

Over Limit : Margin Value, Read Level : Reading Value, Ant Factor : Ant Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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Test Setup Photos and Configuration

Conducted Voltage Emissions

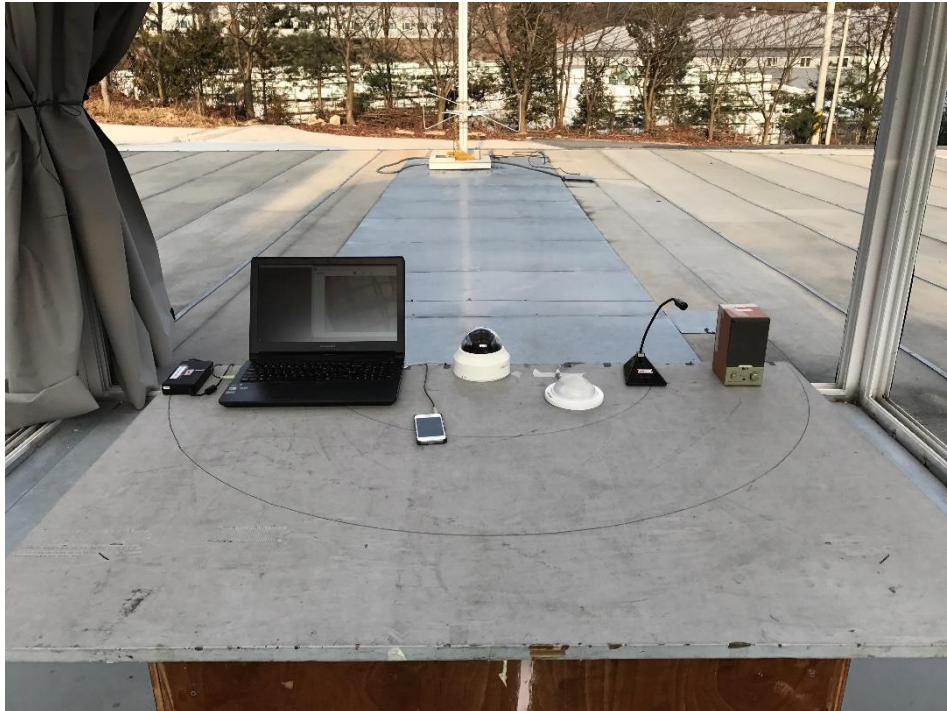
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N/A

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Radiated Electric Field Emissions(Below 1 GHz)

- DC 12 V Mode



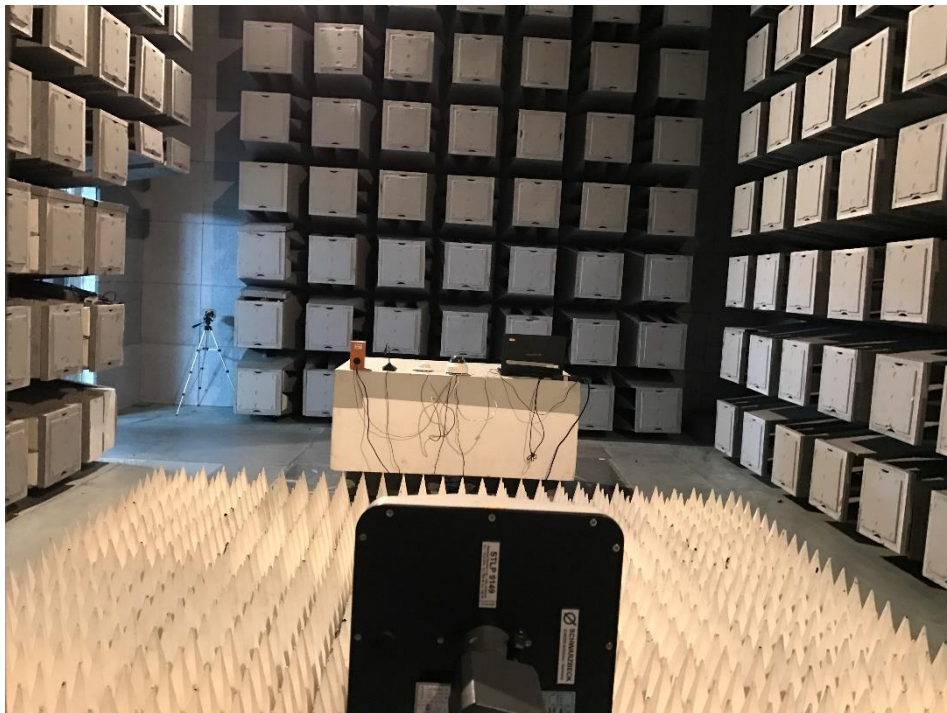
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- PoE Mode



Radiated Electric Field Emissions(Above 1 GHz)

- DC 12 V Mode



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- PoE Mode



EUT External Photographs

(Top)



(Bottom)



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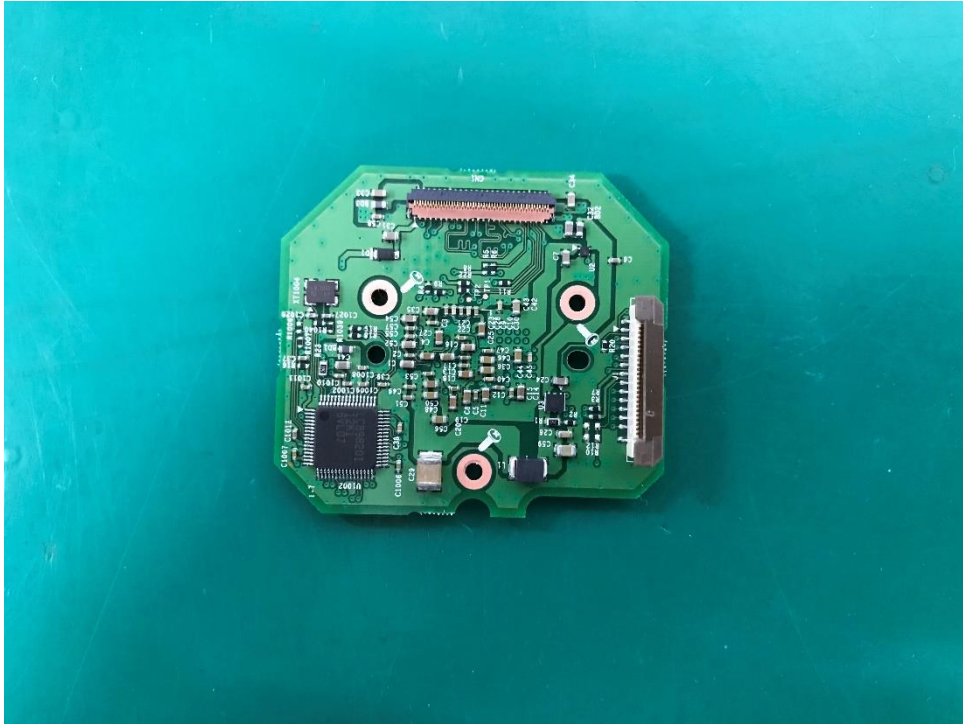
EUT Internal Photographs

(Internal View)

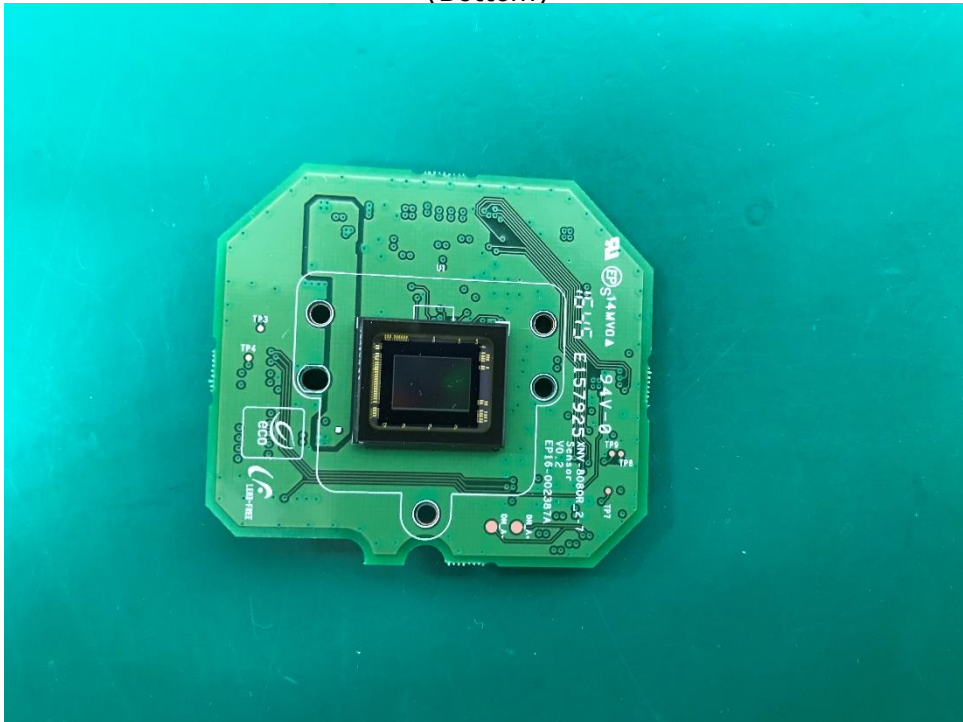


EUT Internal View – board 1

(Top)



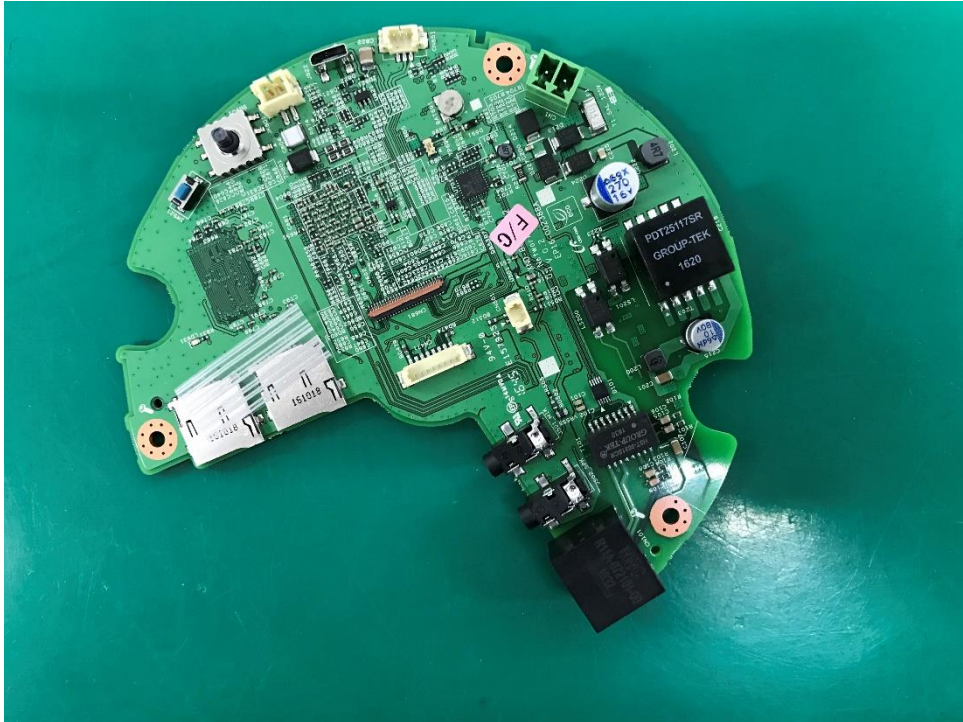
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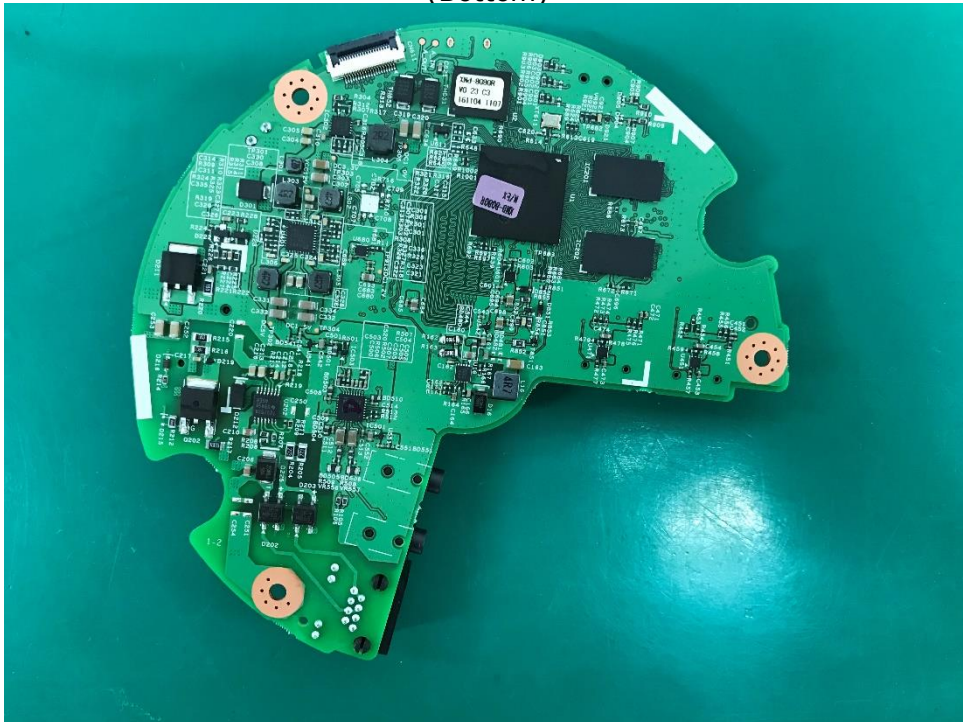
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EUT Internal View – board 2

(Top)



(Bottom)



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EUT Internal View – board 3

(Top)



(Bottom)



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Label Photographs



This device complies with part 15 of the FCC Rules. Operation in subject to the following two conditions: (1) This device Sep not cause harmful interference, and (2) this device must accept any interference received, including interference that Sep cause undesired operation.